

EXHIBIT 9

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Dan Silver, Executive Director
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RE: Comments on greenhouse gas mitigation measures and carbon offset standards proposed for Otay Ranch Village 14 and Planning Areas

Dear Mr. Silver,

At your request, I reviewed portions of the Draft Final Environmental Impact Report (DFEIR) prepared by the County of San Diego (County) for Otay Ranch Village 14 and Planning Areas 16/19 (the “Project”). Specifically, I reviewed the County’s proposed climate change mitigation measures, which rely extensively on carbon offsets that the County claims will mitigate the project’s greenhouse gas (GHG) emissions to “net zero” and thus avoid significant environmental impacts under the California Environmental Quality Act (CEQA) and San Diego County’s Regional Plan. I also reviewed the County’s responses to public comments submitted, including Thematic Responses, 8.4.5 (Use of Carbon Offsets¹).

The County proposes to use offset credits from the voluntary offset market. Credits must be obtained from the Climate Action Reserve (CAR), American Carbon Registry (ACR), or Verra; a registry approved by the California Air Resources Board (CARB) to act as a registry under the state’s cap-and-trade program; or another “reputable” registry employing standards that the County Director of Planning and Development Services deems “comparable” with standards followed by the three named registries. Offsets must also achieve real, permanent, quantifiable, verifiable, and enforceable reductions as specified in California Health & Safety Code, Section 38562(d)(1), and must represent reductions that are “not otherwise required” pursuant to CEQA Guidelines, Section 15126.4(c)(3). Offset credits will be considered to meet these requirements if they are obtained from one of the allowed registries. The proposal indicates geographic priorities, but allows the procurement of offset credits from projects anywhere in the world.

The voluntary offset market is self-regulated and the failure of many offset projects registered with the permitted registries to reduce emissions is well documented. The standards proposed by the

¹ <https://www.sandiegocounty.gov/content/dam/sdc/pds/ProjectPlanning/OtayRanchVillage14andPlanAreas16-19/DFEIR/Responses/Thematic%20Responses.pdf>

County are insufficient to support a conclusion that the credits used to offset direct emissions from the project actually reduce the GHG impact of the project to “net zero.” The following comments describe why this is the case.

Over-arching challenge – uncertainty in emissions reduced by offset projects

Offsets allow an emitter to emit more than a voluntary or regulated emissions target in exchange for reducing an equivalent quantity of emissions, or sequestering an equivalent quantity of carbon, elsewhere. Estimating the actual effect of offsets on emissions is inherently uncertain (Environmental Commissioner of Ontario 2017, Haya et al. 2016). This is because offsets *pay* for *reductions* instead of charge or cap emissions. Emissions *reductions* must be estimated against a counterfactual scenario of what would have happened without the offset program—a scenario that is uncertain because it never happened. The profits from offset *payments* have also created incentives that have led to increases in emissions outside project boundaries even though they have decreased within project boundaries. These effects outside of project boundaries are also hard to quantify.

Below I provide detailed descriptions of several key challenges to estimating emissions reduced by offset projects with discussion and examples of over-crediting from project types currently on the voluntary offset market.

Additionality

In order for an emitter to mitigate direct emissions, that emitter must *cause* equivalent reductions to happen elsewhere. The requirement that any project generating offset credits must be *additional*, or beyond what would have happened without the offset program, is fundamental to the purpose of offsets; if an emitter pays project developers for actions they would have taken anyway, that emitter has not reduced emissions elsewhere to offset their direct emissions.

The offset registries proposed for use by San Diego County use two broad methods for assessing additionality: project-by-project and performance based. Project-by-project additionality testing was developed by the Kyoto Protocol’s offset program, called the Clean Development Mechanism (CDM), and is currently used by some Verra protocols.² Under this approach, each individual offset project developer must demonstrate that their proposed offset project would not have gone forward were it not for the incentive created by the offset program.

Studies of the outcomes of the Kyoto Protocol’s offset program estimate that the large majority of these projects are likely to be non-additional (Aldy and Stavins 2012, Cames et al. 2016, Haya 2009, He and Morse 2013, Wara 2008, Zhang and Wang 2011). A study commissioned by the EU Commission estimates that the credited reductions of 85% of these offset project are questionable (Cames et al. 2016). This was able to happen because methods used to test additionality of proposed offset projects are inaccurate. Offset project developers were able to put forward claims that their projects were not cost effective or had substantial barriers that prevented the projects from moving

² Verra registers projects using any CDM methodology (see <https://verra.org/methodologies/>), and many Verra methodologies assess additionality and baselines using the same methods as the CDM. For example, see “VM0002 New Cogeneration Facilities Supplying Less Carbon Intensive Electricity to Grid and/or Hot Water to One or More Grid Customers, v1.0” which explicitly uses the CDM’s investment analysis and barriers analysis approach to test additionality on a project-by-project basis.

forward without the offset income, but third party validators could not prove or disprove these claims (Haya 2009).

A second generation of offset programs were developed that used performance-based additionality testing. CAR, ACR, some Verra, and the California Air Resources Board (ARB) offset protocols avoid project-by-project additionality testing by defining categories of projects that are not common practice. Any projects that meet the objective criteria defined by a protocol are deemed additional and are allowed to participate in the offset program. While this approach avoids the uncertainty involved in testing the additionality of individual projects, it suffers from uncertainty related to the overall effect of the offset protocol on emissions.

Many of the project types defined by performance-based protocols were already being implemented to some extent on their own before the adoption of the offset protocol. These include improved forest management, livestock digesters, landfill gas capture projects, and methane capture at coal mines among others. New projects that would have been implemented without the help of the offset program are now able to generate offset credits even though they are non-additional.

For example, CAR's Forest Projects offset protocol, a version of which was adopted by ARB, deems improved forest management to be additional if the project lands hold more carbon per acre than the baseline. For most projects, the baseline is defined as the average carbon storage per acre for that region and forest type. By definition, half of forest carbon is on forestlands with above average carbon and half on lands with below average carbon. This means that forestland owners who currently manage their lands to hold more carbon and intend to continue to do so can now earn offset credits without changing their management practices. In one study of ARB's U.S. Forest Projects protocol, 38% of project developers and operators surveyed self-reported that participation in the offset program has not changed the management of their forests, calling into question the additionality of reductions credited by these projects (Anderson and Perkins 2017). ACR's and Verra's protocols generate credits in a similar fashion. Forest projects have produced over half of total voluntary market offset credits generated as of May 2018 from projects located in the United States.³

Uncertainties related to non-additional crediting could potentially be avoided under the performance-based approach if the credits generated by the protocols were discounted to account for the reductions generated by business-as-usual projects that would have occurred with or without the availability of offset credits. So far none of the registries are regularly doing this analysis.

The definition of additionality proposed to be used by San Diego County is even weaker than those used by the voluntary market registries and does not reflect the actual meaning of additionality. San Diego County's mitigation measures do not address additionality directly. Instead, the measures state that offset credits must represent emissions reductions that are "not otherwise required." Draft EIR at 2.7-33, 2.7-44 (citing CEQA Guidelines, Section 15126.4(c)(3)). Certainly reductions that are legally required are non-additional, since they would have happened without the offset program. However, being required by law is only one among many reasons that emissions reductions may occur without offset credits. ARB adopted a comprehensive definition of additionality in its Global

³ Calculated from the Climate Action Reserve (CAR), American Carbon Registry (ACR), and Verra registry databases: <https://thereserve2.apx.com/myModule/rpt/myrpt.asp?r=111>, <https://acr2.apx.com/myModule/rpt/myrpt.asp?r=111>, and <https://www.vcsprojectdatabase.org/#/home>

Warming Solutions Act (AB32) that reflects the actual meaning of the word as it applies to offsets: “the reduction is in addition to any greenhouse gas emission reduction otherwise required by law or regulation, and any other greenhouse gas emission reduction that otherwise would occur.”⁴ In other words, a project is deemed to be non-additional if it would otherwise occur, whether because it is required by law or for any other reason.

Leakage

Offset projects can cause *leakage* when they reduce emissions by reducing the production of a good, which in turn can cause production of that good to be displaced to somewhere else to meet demand with associated increases in emissions in that other location. Taking CAR’s Forest Project offset protocol as an example again, many improved forest management projects generate credits by purportedly increasing onsite carbon storage by decreasing timber harvesting. This reduction in harvesting on project lands can lead to increased harvesting on other lands to meet demand for timber. Analysis of the leakage provisions in ARB’s U.S. Forest Projects offset protocol shows that leakage is significantly underestimated (Haya 2019). As a result, only one in five credits generated under the protocol are likely to represent real emissions reductions achieved. While the other four of five credits represent calculated reductions on the participating lands, all of that carbon benefit is lost to increased harvesting that happens on other lands to meet timber demand. The CAR voluntary market protocol features the same timing discrepancy with resulting over-crediting. California’s Independent Emissions Market Advisory Committee (IEMAC) recommended a review of the outcomes of ARB’s offset protocol specifically citing concerns about its leakage provisions (Independent Emissions Market Advisory Committee (IEMAC) 2018).

Perverse incentives

The income generated by an offset program can lead to an increase in emissions outside of the project boundaries defined by the protocol. A significant example of this is hydrofluorocarbon (HFC) reduction protocols under the UN’s offset programs. This is an eligible project type under Verra protocols. Under the UN’s offset programs, refrigerant manufacturers are allowed to earn offset credits from burning HFC gases that are a byproduct in the manufacture of refrigerants. Because of the high GHG potency of HFC, because of the offset protocol refrigerant manufacturers have an incentive to produce more refrigerant than they otherwise would have just to destroy the HFC byproduct for offset income even if they were not able to sell the refrigerant (Schneider and Kollmuss 2015, Wara 2008). They also have the incentive to produce refrigerants less efficiently to maximize the production of the HFC byproduct in order to earn offset credits from its destruction.

Conclusions

The standards for offsets procurement proposed by the County do not ensure that the direct emissions from the project are mitigated to “net zero.” The reductions resulting from offsets are inherently uncertain because offsets measure emissions reductions against an unknowable counterfactual scenario that never happened and because of difficult-to-measure effects on emissions outside of project boundaries. Importantly, while ensuring additionality is essential to what an offset is, the two approaches to ensuring additionality used by voluntary market offset programs have not been sufficient to ensure offset credits represent real additional emissions

⁴ California Health & Safety Code § 38562(d)(2).

reductions. Further, the definition of additionality proposed by the County is only part of the commonly accepted definition and does little to ensure that credited reductions are additional to what would have happened anyway without offset projects.

The uncertainty inherent in estimating emissions reduced by offset programs, and the lack of environmental quality of many offset credits on the market, mean that the County's proposal to allow for the purchase of any offset credits from voluntary market registries that meet the County's listed requirements cannot be seen as an equal exchange for increases in emissions from a development project. Due to the profound and well-documented uncertainties in voluntary GHG offsets, the County cannot reliably conclude that its proposed GHG mitigation measures will reduce the Project's GHG emissions to "net zero."

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